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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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			EXAMINER	
			COY, NICOLE A	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,611	READ, DENNIS M.	
	Examiner	Art Unit	
	Nicole Coy	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-17 is/are allowed.
- 6) ☒ Claim(s) 1-6, 18-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments and amendments, filed 3/6/06, with respect to the rejection(s) of claim(s) 1-30 under Pringle have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Poullard et al. In view of the new rejection of claims 29 and 30, this rejection is non-final.

Claim Objections

Claims 25 and 26 are objected to because of the following informalities: there is no antecedent basis for "the spring" in line 7 of claim 25. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 and 18-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Poullard et al. (USP 5,984,014).

With respect to claim 1, Poullard et al. discloses an apparatus for remotely charging and storing energy to operate a tool positioned in a well, comprising: a tool body (50) having a central bore formed therethrough (see figure 2A); a moveable piston (124) arranged in the tool body; a spring arranged in the tool body (120), the spring adapted to engage the piston (see figure 2B); and a latching mechanism (200) adapted to selectively lock the piston to the tool body, wherein energy is charged by moving the piston to compress the spring to a point of equilibrium with the wellbore pressure (see column 4 lines 34-40, wherein Examiner believes that the equilibrium stage is the intermediate stage), and further wherein additional energy is stored by forcing the piston to further compress the spring beyond the point of equilibrium (see column 4 lines 34-40) and then locking the piston once the spring is further compressed (via 200).

With respect to claim 2, Poullard et al. discloses that the piston (124) is adapted to be moved by differential pressure between the well and the spring (see column 12 line 63 to column 13 line 26).

With respect to claim 3, Poullard et al. discloses that the spring comprises: a gas chamber formed in the tool body (120); and a compressible gas located in the gas chamber (wherein Poullard discloses that 120 is a pressurized nitrogen chamber).

With respect to claim 4, Poullard et al. discloses that the piston is arranged in the gas chamber (see figure 2B).

With respect to claim 5, Poullard et al. discloses that the gas comprises nitrogen (see column 13 lines 20-22).

With respect to claim 6, Poullard et al. discloses that the spring comprises: a mechanical spring (see column 4 lines 3-10).

With respect to claim 18, Poullard et al. discloses a method for energizing a tool in a well, comprising: lowering the tool (50) into the well (see figure 1), the tool (50) having a spring (120) to actuate the tool, the spring being exposed to wellbore pressure (see column 4 lines 34-40); compressing the spring (120), while in the well, to a compressed state in which the spring exerts a greater force than that applied by the wellbore pressure; and holding the spring member in the compressed state to store energy (see column 4 lines 34-40).

With respect to claim 19, Poullard et al. discloses that the spring member is a gas spring (see column 4 lines 3-10).

With respect to claim 20, Poullard et al. discloses that the spring member is a mechanical spring (see column 4 lines 3-10).

With respect to claim 21, Poullard et al. discloses using the stored energy to actuate the tool by decompressing the spring (see column 4 lines 20-40).

With respect to claim 22, Poullard et al. discloses that the tool (50) is a valve (see figures 2A-2K).

With respect to claim 23, Poullard et al. discloses a method, comprising: running a tool (50) in a well; using pressure in the well to move a piston in the tool to compress a gas, trapped in the tool, to a point of equilibrium with the hydrostatic pressure of the well (see column 4 lines 34-40); subsequently moving the piston an additional distance to further compress the gas (see column 4 lines 34-40, wherein Examiner believes that

Art Unit: 3672

the equilibrium stage is the intermediate stage); locking the piston in the tool to prevent the gas from decompressing (via 200); and using the compressed gas to actuate the tool (see column 4 lines 20-46).

With respect to claim 24, Poullard et al. discloses locking the piston (124) is achieved by ratcheting the piston to an inner sleeve in the tool (via 200).

With respect to claim 25, Poullard et al. discloses a method for actuating a valve in a well, the method comprising: connecting the valve (50) to an actuator; running the valve (50) downhole such that the actuator is exposed to wellbore pressure (see figure 1); while downhole, compressing a gas (in chamber 120) acting on the actuator in a direction opposing the wellbore pressure, the spring (120) being compressed to a point beyond equilibrium between the spring and the wellbore pressure (see column 4 lines 20-46); holding the gas in a compressed state to store energy in the actuator for actuating the valve; and decompressing the gas to actuate the valve (see column 4 lines 20-46).

With respect to claim 26, Poullard et al. discloses that compressing the gas is achieved by moving a piston (124) in the actuator.

With respect to claim 27, Poullard et al. discloses that holding the gas in a compressed state is achieved by ratcheting (via 200) the piston to an inner sleeve in the actuator.

With respect to claim 28, Poullard et al. disclose a method for actuating a valve in a well, the method comprising: connecting the valve (50) to an actuator; running the valve downhole such that the actuator is exposed to wellbore pressure (see figure 1);

Art Unit: 3672

while downhole compressing a mechanical spring (120) that biases the actuator in a direction opposing the wellbore pressure, the mechanical spring being compressed to a point beyond equilibrium between the mechanical spring and the wellbore pressure (see column 4 lines 20-46); holding the mechanical spring in a compressed state to store energy in the actuator for actuating the valve; and decompressing the mechanical spring to actuate the valve (see column 4 lines 20-46).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle et al. (USP 4,771,831) in view of Poullard et al.

With respect to claim 29, Pringle et al. discloses an energy storage apparatus for receiving and storing an energy charge for actuating a downhole tool arranged in a wellbore, the energy storage apparatus comprising: a body connectable to the downhole tool (see figures 1B and 2B); a sleeve arranged within the body, the sleeve defining a central bore and a chamber (see figures 1B and 2B); a moveable piston arranged in the chamber, the piston dividing the chamber into two portions (see figure 1B, numeral 28); a port adapted to communicate well fluid from the bore to one portion

Art Unit: 3672

of the chamber (18); a compressible gas arranged in the other portion of the chamber, the gas being compressible by the piston(see column 3 lines 32-36).

Pringle et al. does not disclose a ratcheting mechanism to selectively hold the piston to compress the gas, the ratcheting mechanism adapted to release the piston at a predetermined pressure. However, Poullard et al. discloses a ratcheting device. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Pringle et al. by including a ratchet mechanism to selectively hold the piston as taught by Poullard et al. in order to have a tool that is extremely safe and advantageous for use in offshore wells and unpredictable high pressure inland wells.

With respect to claim 30, Pringle et al. teaches a latching mechanism to selectively hold the piston to prevent the piston from moving during initial running of the downhole tool in the wellbore, the latching mechanism adapted to release the piston at a predetermined pressure (see column 4 lines 25-51).

Allowable Subject Matter

6. Claims 7-17 are allowed.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Coy whose telephone number is 571-272-5405. The examiner can normally be reached on M-F 7:30-5:00, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nac


William Neudec:
Primary Examiner.